

Appl. No. 10/030,659

Amdt. dated (Saturday) 15 November 2003

Reply to Office action of 26-Sept-03

Listing of Claims:

1. **(Currently amended)** An apparatus for automatic preparation of a preselected mixture, comprising:

a plurality of vessels, each vessel is flexible-walled with an associated first flow channel hermetically extending from an exit port and is arranged on a support structure and oriented for dispensing a fluent substance through at least said one exit port and said [[a]] first flow channel, each said first flow channel in further communication with a dedicated measurement assembly and a second flow channel;

a receptacle support;

a user interface for receiving a first input concerning the mixture; and

a storage device holding a plurality of instructions for locating a respective one of said second flow channels and said receptacle support in operative relation for collecting said fluent substance.

2. **(Original)** The apparatus of Claim 1 wherein the mixture is selected from the group consisting of liquid reagents, cleaning solutions, solvents, pesticides, herbicides, paints, mixed beverages, and fluent foodstuff; said instructions for locating further comprises instructions for rotating a respective one of said plurality of vessels to position said respective second flow channel above said receptacle support; and said plurality of instructions further comprises instructions for directing a respective one of said dedicated measurement assemblies to dose, according to said input, said fluent substance so dispensed.

3. **(Currently amended)** The apparatus of Claim 1 wherein:

said support structure comprises a framework rotatively coupled to an axis member, said vessels are circuitously arranged on said framework; an upper-end and a lower-end of each said vessel has been hermetically formed from a flexible stock material and pre-filled to contain said fluent substance; said framework comprises a plurality of projections, each said projection to fit through a support opening of said upper-end to hold a respective one of said plurality of vessels; and

the apparatus further comprises a dose actuator stationed in positional relationship with said receptacle support.

4. **(Currently amended)** ~~The apparatus of Claim 3 further comprising~~ An apparatus for automatic preparation of a preselected mixture, comprising:

a plurality of vessels, each vessel arranged on a support structure and oriented for dispensing a fluent substance through at least one exit port and a first flow channel, each said first flow channel in further communication with a dedicated measurement assembly and a second flow channel, said support structure comprising a framework, said vessels circuitously arranged on said framework;

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a receptacle support;
a user interface for receiving a first input concerning the mixture;
a storage device holding a plurality of instructions for locating a respective one of said second flow channels and said receptacle support in operative relation for collecting said fluent substance;
a dose actuator stationed in positional relationship with said receptacle support;
a dedicated check valve upstream of each of said measurement assembly; and
wherein: an upper-end and a lower-end of each said vessel has been hermetically formed from a flexible tubular stock material; said framework comprises a plurality of projections, each said projection to fit through a support opening of said upper-end to hold a respective one of said plurality of vessels; and each said measurement assembly further comprises a piston chamber within which a head connected to a first end of a rod is disposed.

5. (Original) The apparatus of Claim 4 wherein said dose actuator comprises a push-surface in connection with a movable linkage, whereby upward movement of said push-surface against a second end of a respective one of said rods causes said head to force any said fluent substance within said piston chamber out and through said respective second flow channel.

6. (Original) The apparatus of Claim 3 wherein: said measurement assemblies are circuitously arranged on said framework in proximity to said vessels; each said measurement assembly being movable vertically along said axis member, and further comprising a piston chamber within which a head connected to a first end of a rod is disposed; said respective second flow channel to comprise a tubular-extension; and said operative relation for collecting to comprise said tubular-extension located over said receptacle support.

7. (Currently amended) ~~The apparatus of Claim 4~~ An apparatus for automatic preparation of a preselected mixture, comprising:

a plurality of vessels, each vessel arranged on a support structure and oriented for dispensing a fluent substance through at least one exit port and a first flow channel, each said first flow channel in further communication with a dedicated measurement assembly and a second flow channel;

a receptacle support;
a user interface for receiving a first input concerning the mixture;
a storage device holding a plurality of instructions for locating a respective one of said second flow channels and said receptacle support in operative relation for collecting said fluent substance; and

wherein: said support structure comprises a framework movably coupled to a sustaining member, said vessels are arranged on said framework; and the apparatus further comprises a titration module and a mixer, each stationed in positional relationship with said receptacle support.

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8. (Original) The apparatus of Claim 7 wherein the mixture is selected from the group consisting of liquid reagents, cleaning solutions, solvents, pesticides, herbicides, paints, mixed beverages, and fluent foodstuff; said instructions for locating further comprises instructions for positioning said receptacle support under said respective second flow channel; and said plurality of instructions further comprises instructions for directing a respective one of said dedicated measurement assemblies to dose, according to said input, said fluent substance so dispensed.

9. (Original) The apparatus of Claim 1 wherein: said support structure comprises a framework rotatively coupled to a sustaining member, said vessels and measurement assemblies are circuitously arranged on said framework; and the apparatus further comprises a mixer stationed in positional relationship with said receptacle support.

10. (Original) The apparatus of Claim 9 further comprising a mixture receptacle on said receptacle support; and wherein said first input comprises information about a preselected number of batches and a chemical make-up of the mixture; said sustaining member is an axis member, each said measurement assembly vertically movable therealong; and said user interface comprises a display.

11. (Currently amended) ~~The apparatus of Claim 9 further comprising~~ An apparatus for automatic preparation of a preselected mixture, comprising:

a plurality of vessels, each vessel arranged on a support structure and oriented for dispensing a fluent substance through at least one exit port and a first flow channel, each said first flow channel in further communication with a dedicated measurement assembly and a second flow channel;

a receptacle support;

said support structure comprises a framework rotatively coupled to a sustaining member, said vessels and measurement assemblies are circuitously arranged on said framework; and the apparatus further comprises a mixer stationed in positional relationship with said receptacle support;

a user interface for receiving a first input concerning the mixture;

a storage device holding a plurality of instructions for locating a respective one of said second flow channels and said receptacle support in operative relation for collecting said fluent substance; and

a titration module stationed in positional relationship with said receptacle support; each of said vessels is flexible-walled with an associated said first flow channel hermetically extending from a respective exit port; and wherein said framework comprises a plurality of outwardly extending spokes upon which said flexible-walled vessels hang.

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12. **(Currently amended)** The apparatus of Claim ~~[[9]]~~ 1 wherein said support structure comprises a framework coupled to a sustaining member; and further comprising a portable base to which said sustaining member is affixed, a titration module stationed in positional relationship with said receptacle support, and a shroud covering said measurement assemblies and a ~~does~~ dose actuator stationed in positional relationship with said receptacle support upon said base.

13. **(Currently amended)** A method of preparing a preselected mixture using a computerized apparatus, comprising the steps of:

arranging a plurality of flexible-walled vessels on a support structure of the apparatus, at least one of said vessels having been pre-filled with a fluent substance and having a first flow channel hermetically extending from an exit port;

receiving a first input concerning the mixture; and

according to said first input and a plurality of instructions held on a storage device of the apparatus: automatically locating a second flow channel and a receptacle support in operative relation; dispensing ~~[[a]]~~ said fluent substance through at least one said exit port and ~~[[a]]~~ said first flow channel from a respective one of a plurality of vessels arranged on a support structure of the apparatus, each said first flow channel in further communication with a dedicated measurement assembly and ~~[[a]]~~ said second flow channel; and using said measurement assembly, dosing said fluent substance so dispensed.

14. **(Currently amended)** The method of Claim 13 further comprising the ~~[[step]]~~ steps of positioning a mixture receptacle on said receptacle support, collecting said dosed fluent substance in said mixture receptacle, and further according to said first input, automatically titrating said collected fluent substance; and wherein said step of automatically locating said second flow channel further comprises rotating said respective vessel and a respective one of said dedicated measurement assemblies such that said second flow channel is over said mixture receptacle.

15. **(Currently amended)** ~~The method of Claim 14 further comprising the steps of:~~ A method of preparing a preselected mixture using a computerized apparatus, comprising the steps of:

receiving a first input concerning the mixture;

preselecting said mixture from the group consisting of liquid reagents, cleaning solutions, solvents, pesticides, herbicides, paints, mixed beverages, and fluent foodstuff, and manually entering said first input, comprising said preselection, through a user interface of the apparatus;

according to said first input and a plurality of instructions held on a storage device of the apparatus: automatically locating a second flow channel and a receptacle

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support in operative relation by rotating said respective vessel and a respective one of said dedicated measurement assemblies such that said second flow channel is over said mixture receptacle; dispensing a fluent substance through at least one exit port and a first flow channel from a respective one of a plurality of vessels arranged on a support structure of the apparatus, each said first flow channel in further communication with a dedicated measurement assembly and said second flow channel; and using said measurement assembly, dosing said fluent substance so dispensed;

collecting said dosed fluent substance in said mixture receptacle;

mixing said collected fluent substance; and

further according to said first input, automatically titrating said collected fluent substance to balance pH thereof.

16. (Original) The method of Claim 13 wherein:

said step of automatically locating said second flow channel further comprises moving said receptacle support under said second flow channel; and

said step of dosing further comprises the steps of allowing said dispensed fluent substance to pass through a check valve in communication with said first flow channel and into a volume of a piston chamber of a respective one of said dedicated measurement assemblies, and actuating a dose actuator stationed in positional relationship with said receptacle support.

17. (Original) The method of Claim 16 wherein:

said step of automatically locating said second flow channel further comprises also moving, vertically along a sustaining member of said support structure, said respective dedicated measurement assembly; and

said step of actuating further comprises moving, in an upwardly direction, a push-surface of said dose actuator against a second end of a rod connected to a head disposed within said piston chamber.

18. (Currently amended) The method of Claim 13 wherein said step of arranging a plurality of flexible-walled vessels further comprises hanging each of said flexible-walled vessels on a framework of said support structure; and further comprising the steps of: positioning a mixture receptacle on said receptacle support; collecting said dosed fluent substance in said mixture receptacle; and further according to said first input, automatically moving a framework of said support structure so that said second flow channel associated with said respective vessel is no longer in said operative relation with said receptacle support, and locating [[a]] another of said second flow channel channels that is in communication with a second one of said plurality of vessels over said receptacle support.

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19. (Currently amended) The method of Claim 18 further comprising the steps of:
- dispensing a second fluent substance through at least one second vessel port and a first flow channel from said second vessel;
 - using a second one of said dedicated measurement assemblies in communication with said first flow channel from said second vessel, dosing said second fluent substance so dispensed; and
 - collecting said dosed second fluent substance in said mixture receptacle; and automatically titrating said collected fluent substances.

20. (Currently amended) ~~The method of Claim 19 further comprising the steps of:~~ A method of preparing a preselected mixture using a computerized apparatus, comprising the steps of:

receiving a first input concerning the mixture;
according to said first input and a plurality of instructions held on a storage device of the apparatus: automatically locating a second flow channel and a receptacle support in operative relation; dispensing a fluent substance through at least one exit port and a first flow channel from a respective one of a plurality of vessels arranged on a support structure of the apparatus, each said first flow channel in further communication with a dedicated measurement assembly and said second flow channel; and using said measurement assembly, dosing said fluent substance so dispensed;
positioning a mixture receptacle on said receptacle support;
collecting said dosed fluent substance in said mixture receptacle;
mixing said collected fluent substances within said mixture receptacle; and
further according to said first input, automatically titrating said collected fluent substances to balance pH thereof, comprising inserting a pH probe into said collected fluent substances and adding pH solution as directed.

21. (Currently amended) An apparatus for automatic preparation of a preselected mixture, comprising:

a plurality of vessels, each vessel arranged on a support structure and oriented for dispensing a fluent substance through a first flow channel that is in further communication with a dedicated measurement assembly for dosing said substance so dispensed;

- a user interface for receiving a first input concerning the mixture; and
- a storage device holding a plurality of instructions for said dosing, according to said input; and
- a titration module and a mixer, each stationed in positional relationship with a receptacle support.

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22. (New) An apparatus for automatic preparation of a preselected mixture, comprising:
- a plurality of vessels, each vessel arranged on a support structure and oriented for dispensing a fluent substance through at least one exit port and a first flow channel, each said first flow channel in further communication with a dedicated measurement assembly and a second flow channel;
 - a receptacle support;
 - a user interface for receiving a first input concerning the mixture;
 - a storage device holding a plurality of instructions for locating a respective one of said second flow channels and said receptacle support in operative relation for collecting said fluent substance; and
 - a titration module stationed in positional relationship with said receptacle support.
23. (New) The apparatus of Claim 22 wherein: the mixture is selected from the group consisting of liquid reagents, cleaning solutions, solvents, pesticides, herbicides, paints, mixed beverages, and fluent foodstuff; and at least one of said vessels is flexible-walled and pre-filled with said fluent substance with said first flow channel hermetically extending from said exit port, said first flow channel being flexible.
24. (New) A method of preparing a preselected mixture using a computerized apparatus, comprising the steps of:
- receiving a first input concerning the mixture; and
 - according to said first input and a plurality of instructions held on a storage device of the apparatus: automatically locating a second flow channel and a receptacle support in operative relation by rotating said respective vessel and a respective one of said dedicated measurement assemblies such that said second flow channel is over said mixture receptacle; dispensing a fluent substance through at least one exit port and a first flow channel from a respective one of a plurality of vessels arranged on a support structure of the apparatus, each said first flow channel in further communication with a dedicated measurement assembly and said second flow channel; using said measurement assembly, dosing said fluent substance so dispensed; collecting said dosed fluent substance in said mixture receptacle; and automatically titrating said collected fluent substance.